Teachers' Perceptions of Students' Additional Support Needs

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Chapter 2

Characteristics of Teacher-Identified Students with Additional Support Needs in Dutch Mainstream Primary Education

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Abstract

Traditionally, special educational needs were defined in terms of child-deficits. Recently, there has been a tendency to define special educational needs in terms of (additional) support needed in the classroom. However, little is known about who are being identified as students in need of more support to meet set educational goals. In this study, a total of 151 students (58.9% boys; mean age 9.7 (0.98), range 8-12 years) were identified by their teachers. About two-thirds were male and about 40% were scoring higher than the national average in key skills. The majority had no clinical diagnosis (boys 76.4%, girls 82.3%). Validated questionnaires measuring students' perceived self-competence, teacher-perceived students' on-task behaviour, teacher-perceived relationship with the students and teacher-perceived students' internalising and externalising (problem)behaviour, were used to compare teacher-identified students to norm-referenced groups. On average, the characteristics of teacher-identified students did not differ radically from the norm-referenced groups. However, teacher-identified students showed significantly more problematic scores on the scales 'depression' and 'self-competence' than the norm-referenced group. Moreover, within-group analysis compared high- to low achieving teacher-identified students and showed several significant differences. Thus, teacher-identified students with additional support needs should not be regarded as a homogenous group that can be defined categorically, rather as a group characterised by a spectrum of needs with many variations; including boys and girls, high- and low achievers, and mainly children without a clinical diagnosis.

Introduction

Within mainstream primary classrooms, students differ in terms of educational attainment, social or behavioural characteristics as well as in their educational needs requisite to accomplish set educational goals (Riding, 2005). Therefore, teachers question themselves how to implement differentiated instruction (Tomlinson et al., 2003), allowing all students to profit from lessons taught. This need for teachers' capacities to meet a variety of (special) educational needs has been strengthened by developments towards inclusive education (Salamanca Statement; United Nations, 1994). The task of mainstream teachers has since shifted from referring students with special educational needs to special schools, towards adapting or making educational provision inclusive (Meijer, 2009).

However, meeting a range of student's (special) educational needs is a struggle for many teachers; it seems to be "inevitably problematic" (Solity, 1991, p. 17).

Changes in Defining (Special) Educational Needs

Alongside these moves towards inclusion, the terminology and conceptualisation of the construct 'special educational needs' (SEN) is also being debated (Anders et al., 2011). Although 'special educational needs' is a generic and all-embracing term (Croll & Moses, 2003) that has been used widely for nearly thirty years (Lindsay, 2007), different constructions of the SEN notion exist.

Historically, special educational needs were often defined around types of impairment (Florian, 2008), referring to the 'classic' population: students with communication disorders, motor skills disorders, sensory disorders, learning disorders, mental impairment, behaviour disorders or chronic diseases (APA, 2000). This 'narrow definition' construed students with special educational needs as diagnosable subjects by means of clinical models, used to categorise students based on objective criteria. However, the terminology of deficits has little value for teachers. For example, a clinical diagnosis (e.g. ADHD) is not an objective in itself (Pameijer, 2006). Teachers require understanding of students' problems but, above all, crystallised suggestions for everyday practice. Moreover, student's educational support needs can differ even if they have the same diagnosis. Hence, "simply abolishing the category does not abolish the need or how to address it" (Williams et al., 2009, p. 204).

Therefore, attention is gradually moving towards teachers' views and professional judgments of value on special educational needs (Wilson, 2002). This perspective reflects a 'broader definition', seeing special educational needs as a matter of degree rather than a categorical distinction. When taking this perspective, special educational needs are defined within a framework of graded learning support, also known as a spectrum of needs (Lebeer et al., 2010) or continuum of needs (Norwich & Lewis, 2001; Williams et al., 2009). This requires teachers to adopt a different mind-set, going from I cannot teach this student, because the student causes too much disturbance to the student needs support focusing during classroom instruction, for example. From this viewpoint, special educational needs within the continuum of learning support should be defined in relation to students' learning outcomes, as argued by Vehmas (2010). These outcomes can be subject related, but also relate to behaviour, and social or emotional development (Meijer, 2009).

Hence, this perspective places teachers' professional judgement at the heart of the identification of students with special educational needs, perceived as in need of (more) classroom support to attain set educational goals (henceforth, teacher-identified students with additional support needs and/or teacher-identified students).

Teachers' Views on Students' Needs

It has been stated regularly that teachers' beliefs play a key role in identifying students' needs in mainstream classrooms and their perceptions of what constitute special educational needs are as crucial as diagnostic skills (Anders et al., 2011). Brady and Woolfsons' literature review (2008) indicates several issues that influence teachers' attributions towards students with special educational needs (e.g. experience; sympathy; sense of efficacy; special or mainstream). Furthermore, the success of inclusion depends on many teacher-related qualities: their expertise (Moberg, 2003), attitude towards inclusion (Avramidis, Bayliss, & Burden, 2000), expectations, views and beliefs about disability (Jordan, Schwartz, & McGhie-Richmond, 2009) and willingness to meet the educational needs of the students (Lindsay, 2007). However, it should be taken into account that teachers' views are variable; they are influenced by the school's context, (McCoy, Banks, & Shevlin 2012), average educational attainment level in the classroom (Croll, 2002; Lupton, Thrupp, & Brown, 2010) and the number of students with special educational needs in the classroom (Hibel, Farkas, & Morgan 2010; Ledoux, Smeets, & Van der Veen, 2005).

Thus, teacher perceptions can be seen as professional, subjective judgmental processes influenced by a combination of student's characteristics and teacher expectancies, perceptions, knowledge and experience. As argued by Croll and Moses (2003) it is of central relevance to understand how teachers' views of special educational needs are constructed. Therefore, this paper explores characteristics of teacher-identified students with additional support needs; in need of (more) classroom support to attain set educational goals.

Characteristics of Teacher-Identified Students

Research on the size of the group of teacher-identified students with additional support needs, has been carried out in several European countries. Dutch teachers label, on average, a quarter of their students as students with special educational needs in mainstream primary education (Van der Veen et al., 2010). Belgian teachers identify an average of 15.9% of their students (Lebeer et al. 2010), compared to 26.1% in the UK (Croll & Moses, 2003), 15-25% in Iceland and 8.0% in Norway (Pijl et al., 2008).

Moreover, research has addressed characteristics of teacher-identified students with additional support needs, such as students' gender, learning outcomes, social, emotional and behavioural characteristics.

Boys are more likely to be teacher-identified, as shown by research in the Netherlands (Van der Veen et al., 2010), the UK (Croll & Moses 2003), Ireland (McCoy et al., 2012) and Norway (Lundervold, Heimann, & Manger 2008). This also holds for students with a

disadvantaged social-economic family background (McCoy et al., 2012). Further, teachers' identification of additional support needs is linked to low attainment outcomes in reading or number work (Anders et al., 2011) or learning difficulties (Croll, 2002). Teacher-identified students score significantly lower on self-esteem (Taylor, Hume, & Welsh, 2010), self-concept and social status (Cambra & Silvestre 2003) than their peers. Meijer et al. (2006) reported that teachers' estimated need for emotional support of students was related to students' withdrawal, emotional instability and anxiety. Further, students who are teacher-identified as having learning problems scored significantly higher on behavioural, social and emotional problems than peers without learning problems (Lundervold et al., 2008).

Although there are several studies on characteristics of teacher-identified students with additional support needs, these were narrowly focused on students with emotional or learning problems. Little empirical research has been carried out to describe teacher perceptions from a broad perspective, using validated and norm-referenced instruments. This study was designed to fill this gap. When teachers consider students' additional support needs, it is likely they take students' characteristics into account that could hinder them in learning processes, such as students' perceived self-competence (Marsh & Martin, 2011), (task-oriented) behaviour, the student-teacher relationship (Pianta & Stuhlman, 2004), and internalising or externalising (problem) behaviour in the classroom. Therefore, the present study compares these characteristics of teacher-identified students to norm-referenced groups.

Aim of the Study and Research Questions

Hence, this study aims at exploring characteristics of teacher-identified students with additional support needs in Dutch mainstream primary education; those perceived as being in need of (more) support to attain set educational goals. These characteristics comprise: students' perceived self-competence, teacher-perceived students' on-task behaviour, teacher-perceived relationship with the students, and teacher-perceived students' internalising and externalising (problem) behaviour. The following research questions were formulated:

1. How do characteristics of teacher-identified students with additional support needs differ from those of students in norm-referenced groups?
2. How do characteristics of high- and low achieving teacher-identified students with additional support needs differ from each other?

Method

Participants, Settings and Procedures

In order to identify students with additional support needs in mainstream classrooms, teachers were asked: "Which of your students are in need of additional support to achieve set educational goals?" It was made clear that educational goals could pertain to a specific subject, but also to a student's social, emotional or behavioural development. A total of 151 students (58.9% boys; mean age 9.7, range 8-12 years) were identified as in need of additional support needs by 55 teachers of 14 mainstream primary schools. The number of teacher-identified students varied from one to five per classroom.

The study's aims were presented at a meeting of 'special needs-coordinators' of a regional association of 51 mainstream primary schools in the northern part of the Netherlands. The coordinators encouraged their teachers to participate; data collection took place from April until June 2010. A total of 62 teachers, from 14 mainstream primary schools, signed up and 55 teachers returned the questionnaires (response rate of 88.7%). Three-quarters of the participating teachers was female. Years of teaching experience ranged from one to 41 years (25% 0-5 years, 50% 6-24 years, 25% >25 years). Over 80% of the teachers completed teacher training at the bachelor level, nearly 8% of the teachers also held a second bachelor degree or a professional master's degree (M Ed. or MSEN) and 5% of the teachers had a research master's degree (MSc. or MA).

Several instruments were selected to measure characteristics of the teacher-identified students, regarding students' perceived self-competence, teacher-perceived students' on-task behaviour, teacher-perceived relationship with the students and students' internalising and externalising (problem)behaviour. The COTAN-handbook (Evers et al., 2002), which reviews the quality of Dutch diagnostic instruments in terms of reliability and validity, was consulted to select instruments with: adequate psychometric properties (α >.60), norm-referenced groups, suitability for mainstream primary education, and which were not too time consuming to fill-in. Instrumentation will be further described in the next section.

Measures were taken to protect the young and potentially vulnerable teacher-identified students with special educational needs during data collection. First, parents' written approval for their child's involvement was required. Second, teacher-identified students remained unknown within the classroom; teachers were instructed to collect data on all students' perceived self-concept. Last, data was collected anonymously; students' names were replaced by respondents' codes.

Instruments

This section describes the selected instruments measuring characteristics of teacher-identified students with special educational needs. All given scale reliability rates (Cronbach's alphas; α) were obtained within this study.

Teachers were asked to provide students' gender, age, clinical diagnosis of special educational needs, if appropriate, and attainment scores in mathematics and comprehensive reading. Students' attainment scores were gathered using standardised tests, which are part of the Dutch national monitoring and evaluation system to monitor the progress of students. This system is developed by the Central Institute for Test Development (CITO). The tests on comprehensive reading and mathematics are administered twice per year on Dutch schools; most recent test-scores were used.

Students' Perceived Competence. Students' self-perceived competence was measured using the 'Competentiebelevingsschaal voor Kinderen' (CBSK, Veerman et al., 1997), the Dutch version of the Self-Perception Profile for Children (Harter, 1985). This questionnaire describes the self-perception of children (age 8-12) regarding school attainment, social acceptance, physical appearance, sport skills and overall sense of self. In this study the scale 'school attainment' (e.g. "some children think they are good at their schoolwork, others worry whether they are good at their schoolwork") was used, consisting of six items (α = .78) on a four-point scale. The questionnaire's manual provides scales scores (*SD*) of norm-referenced groups including male (n = 180) and female students (*n* = 181) from Dutch mainstream primary education in different age-groups (8-, 9-, 10-, 11- and 12-year-olds).

Teacher-Perceived Students' Task-Orientated Behaviour. Teachers' perceptions of identified students' task-oriented behaviour were measured using the Dutch version (Smidts & Huizinga, 2009) of the 'Behaviour Rating of Executive Function' (BRIEF, Gioia et al., 2000), capturing cognitive processes for efficient, target-orientated and socially adapted behaviour of children (age 5-18) in school contexts. Teachers indicate how often a given behaviour (75 items) has occurred in the past six months, on a three-point scale (*never* – *often*). The questionnaire consists of nine scales: 'inhibit' (10 items; e.g., "has difficulties to put the brake on his/her own behaviour"; α = .93), 'shift' (10 items; e.g., "gets upset when plans are being changed"; α = .82), 'emotional control' (9 items; e.g., "reacts more intensely to situations than other children"; α = .93), 'initiate' (7 items; e.g., "has problems starting with homework or chores"; α = .77), 'working memory' (10 items; e.g., "can focus for a short period of time"; α = .92), 'plan/organize' (8 items; e.g., "underestimates time that is needed to finish tasks"; α = .77), 'organization of materials' (7 items; e.g., "has problems finding things in the classroom"; α = .92) and 'monitor' (10 items; e.g.,

"does not notice when his/her behaviour invokes negative reactions"; α = .75). The questionnaire's manual provides scales scores (*SD*) of norm-referenced groups including male (n = 114) and female students (*n* = 101) from Dutch mainstream primary education in different age-groups (5-8-year-old, 9-11-year-old and 12-14-year-old).

Teacher-Perceived Relationship with the Students. Teachers' perceptions of their relationship with identified students with additional support needs were measured by the 'Leerkracht Leerling Relatie Vragenlijst' (LLRV, Koomen et al., 2007), the Dutch version of the 'Student Teacher Relationship Scale' (Pianta, 2001). The questionnaire has 28 items on a five-point scale (*never – always*) consisting of three scales: 'conflict' (11 items; e.g., "if this child is in a bad mood, I know it is going to be a long and challenging day"; α = .88), 'closeness' (11 items; e.g., "I have a warm relationship with this child"; α = .81) and 'dependency' (6 items; e.g., "the child reacts strongly to situations where he/she cannot be with me"; α = .82). The questionnaire's manual provides scales scores (SD) of norm-referenced groups including male (*n* = 573) and female students (*n* = 672) from Dutch mainstream primary education in different age-groups (8-, 9-, 10-, 11 and 12-year-old).

Teacher-Perceived Student's Behaviour in the Classroom. Teachers' perceptions of identified students' internalising and externalising (problem) behaviour in the classroom was measured using the Dutch version of the 'Problem Behaviour at School Interview' (Erasmus MC, 2000). The PBSI is a 36-item teacher questionnaire that assesses disruptive and shy–withdrawn behaviour of children in school contexts. Teachers rate students' behaviour using a five-point scale (never applicable - often applicable) consisting of 6 scales: 'attention deficit hyperactive disorder' (ADHD) (five items; e.g., "has little concentration or a short span of attention"; α = .83), 'oppositional disorder' (OD) (five items; e.g., "is being rebellious"; α = 0,87), 'conduct disorder' (CD) (12 items; e.g., "curses"; α = .91), 'aggression' (three items; e.g., 'excludes other children when he/she is angry at them"; α = .76), 'anxiety' (three items; e.g., "is anxious"; α = .72) and 'depression' (four items; e.g., "is being indifferent, absent-minded or not motivated"; α = .72). The available norm-referenced group consists of male (n = 300) and female students (*n* = 300) from Dutch mainstream primary education. Scale scores (*SD*) of the norm-referenced group were manually computed for different age-groups (8-, 9-, 10-, 11- and 12-years-old), using the original data set.

Table 2.1 Scale Scores and Deviancy Scores of Teacher-identified Students and the Norm-referenced Group

	Boys		Boys		Girls		Girls	
	Identified	Norm	Identified	Norm	Identified	Norm	Identified	Norm
Characteristic	*M (SD)*		% >P90		M *(SD)*		% > P90	
Self-competence								
School Attainment	4.7(2.4)**	17.4 (3.5)	27.2**	10.0%	14.4 (1.9)**	16.3 (3.4)	34.2**	10.0%
Task-oriented behaviour								
Inhibit	16.2 (5.9)	15.7 (5.7)	20.2**	10.0%	12.5 (3.8)**	14.9 (5.6)	9.7	10.0%
Shift	14.2 (3.9)	15.3 (4.9)	4.5	10.0%	13.4 (3.1)	14.2 (4.7)	24.2**	10.0%
Emotional Control	12.8 (4.7)	12.9 (4.8)	5.6	10.0%	11.8 (4.3)	12.4 (4.8)	22.6**	10.0%
Initiate	11.4 (3.3)	12.4 (3.9)	3.4*	10.0%	11.2 (3.4)	11.4 (4.2)	1.6**	10.0%
Working memory	16.8 (5.4)	17.1 (5.8)	11.2	10.0%	15.5 (5.3)	16.3 (6.6)	1.6**	10.0%
Plan/Organize	15.8 (3.7)	16.9 (5.4)	15.7	10.0%	15.0 (3.1)	15.6 (5.8)	6.5	10.0%
Organization of materials	11.0 (4.3)	10.4 (3.9)	16.9*	10.0%	9.1 (3.3)	9.8 (4.3)	3.2	10.0%
Monitor	17.7 (5.3)	18.3 (5.2)	14.6	10.0%	14.8 (4.1)*	16.3 (5.7)	6.5	10.0%
Student-teacher relationship								
Conflict	18.1 (7.8)	17.5 (7.9)	6.0	10.0%	15.3 (6.6)	15.5 (6.5)	8.1	10.0%
Dependency	11.8 (5.2)	11.1 (4.3)	16.9*	10.0%	11.9 (5.4)	11.6 (4.5)	16.1	10.0%
Closeness	42.5 (6.7)	43.8 (7.2)	9.3	10.0%	43.5 (6.3)	46.4 (6.3)	18.0*	10.0%
Behaviour in the classroom								
ADHD	12.0 (5.1)	11.3 (5.0)	12.4	10.0%	8.6 (4.0)	9.2 (3.8)	8.1	10.0%
Oppositional disorder	11.1 (4.9)	11.2 (4.5)	14.6	10.0%	8.5 (4.0)	9.3 (3.8)	9.7	10.0%
Conduct disorder	19.8 (7.6)	20.7 (8.5)	4.5	10.0%	14.2 (3.7)**	16.4 (5.2)	4.8	10.0%
Aggression	5.9 (2.5)	5.7 (2.4)	19.1*	10.0%	6.0 (2.6)	6.4 (2.4)	16.1	10.0%
Anxiety	8.4 (3.6)	8.4 (3.1)	24.7**	10.0%	9.6 (3.9)*	8.2 (3.2)	21.0**	10.0%
Depression	10.4 (4.1)*	8.0 (2.9)	39.3**	10.0%	9.1 (3.4)**	7.2 (2.8)	27.4**	10.0%

Note. * $p < .05$. ** $p < .01$.

Analyses

Although dependent variables were not normally distributed, a one-sample t-test (two-sided) was carried out in order to compare scale scores of the teacher-identified students to those of norm-referenced groups. Effect sizes were calculated using Cohen's *d* for t-tests and were interpreted according the standard rule of thumb: $d \geq 0.2$ as a small, $d \geq 0.5$ as a moderate and $d \geq 0.8$ as a large effect size.

Furthermore, teacher-identified students' scale scores were transferred into percentile scores using the norm-tables in the questionnaire's manual. The cut-off point for defining students' deviancy score was set at the 90th percentile; corresponding to the 10% highest scores in norm-referenced sample. In accordance with the questionnaire's manual (Harter, 1985), the 85th percentile was used as cut-off point regarding students' perceived self-concept. These cut-off points were used to construct dummy variables of teacher-identified-students' deviancy scores; 0 < P85 or P90 ; 1 if ≥ P85 or P90. Since no norm-tables were available for teacher-perceived internalising or externalising (problem) behaviour in the classroom, a dataset was used (boys, $n = 300$; girls, $n = 300$) to manually retrieve this cut-off point (P90), using SPSS 17th edition.

A Chi-square test (two-sided) was used to compare the number of teacher-identified students with deviancy scores, to those in the norm-referenced groups using expected values (10%; 90%). Then, the observed number of teacher-identified students with deviancy scores was transferred into percentages.

As mentioned, students' attainments scores were gathered using standardised tests, which are part of the Dutch national monitoring and evaluation system to monitor the progress of students. This system is developed by the Central Institute for Test Development (CITO). The students' outcomes (A-E-score) correspond with the following percentile cut-off points: A-score >P75; B-score P50-P75; C-score P25-50; D-score P10-P25; E-score <P10. A dummy-variable was computed to distinguish teacher-identified students with special educational needs scoring above ('high'1; >P50) and below ('low' 0; P<50) national average, respectively.

Then, scores of high- and low achieving teacher-identified students were compared using a Mann-Whitney test.

Results

A total of 151 students (mean age 9, ranging from 8-12 years; 58.9% boys) were teacher-identified as students with additional support needs. Less than a quarter had a clinical diagnosis of special educational needs (boys 23.6%, girls17.7%).

Teacher-Identified Students vs the Norm-Referenced Group

Table 2.1 presents scale scores of students' perceived self-competence, teacher-perceived students' task-oriented behaviour, teacher-perceived relationship with the students and teacher-perceived internalising and externalising (problem) behaviour in the classroom of the teacher-identified students with additional support needs and therelevant norm-referenced group for boys and girls. Table 2.1 also shows the number of students with deviancy scores (≥ P90) within the cohort of teacher-identified students and the norm-referenced group.

Students' Perceived Competence. The scale score of teacher-identified students' perceived self-competence regarding school attainment was significantly higher (i.e. lower perceived self-competence) than in the norm-referenced group (boys, t(46) = -6.40, $p < .001$, $d = 0.90$; girls, $t(34) = -4.67$, $p < .001$, $d = 0.69$). The effect scores of differences in students' views of how well they are doing in school are large.

Moreover, the proportion of individual teacher-identified students obtaining a deviancy score was significantly higher (boys, 27.2%; girls, 34.2%) than expected. This holds for both male ($\chi2 = 16.40$, $p <0.001$) and female teacher-identified students ($\chi2 = 22.94$, $p < 0.001$).

Teacher-Perceived Students' Task-Orientated Behaviour. No scale differences were found between teacher-perceived students' task-oriented behaviour of male teacher-identified students and the norm-referenced group. The group of female teacher-identified students had significantly lower scores on having problems suppressing impulses and stopping one's own behaviour at appropriate times ('inhibit'; $t(61) = -393.7$, $p <0.01$, $d = 0.50$) and inability to check work and performance during and immediately after finishing a task ('monitor'; $t(61) = -506.6$, $p < 0.01$, $d = 0.30$) than girls in the norm-referenced group.

Significantly more individual male teacher-identified students (20.2%) obtained a deviancy score on the scale 'inhibit' than expected ($\chi2 = 10.34$, $p<0.001$). This also holds for the 16.9% male teacher-identified students perceived having problems ordering work, play, and storage spaces ('organization of materials'; $\chi2 = 4.65$, $p = .03$). By contrast, fewer individual teacher-identified boys (3.4%) were perceived to have problems with initiating tasks or activities and generating ideas, strategies, and responses ('initiate'; $\chi2 = 4.35$, $p = .04$), than boys in the norm-referenced group.

Further, significantly more individual female teacher-identified students (24.2%) were perceived to have problems adjusting behaviour to changing demands of a situation ('shift'; $\chi2=$

13.88, p <0.001) than girls in the in norm-referenced group. This also holds for the 22.6% of female teacher-identified students who are perceived to have problems modulating emotional responses ('emotional control'; $\chi 2 = 10.9$, $p = .01$). By contrast, fewer individual female teacher-identified students (1.6%) were perceived of having problems initiating tasks ('initiate', $\chi 2 = 538.2$, p <0.001) and holding information in mind with the objective of completing a task ($\chi 2 = 4.85$, $p = .03$), compared to girls in the norm-reference group.

Teacher-Perceived Relationship with the Students. No significant differences in scale scores were found between teacher-identified students and the norm-referenced group, in terms of teachers' perceptions of their relationship with the students. However, 16.9% of the male teacher-identified students obtained a deviancy score in being dependent of the teacher, which is significantly higher than expected ($\chi 2 = 4.65$, $p = .03$). Further, 18% of the female teacher-identified students had a deviancy score in being perceived as not having warm relations with the teacher ('closeness'), which differs significantly from the expected 10% ($\chi 2 = 4.14$, $p = .04$).

Teacher-Perceived Student's Behaviour in the Classroom. Teacher-identified students scored significantly higher on being perceived as indifferent, absent-minded or not motivated ('depression'), than the norm-referenced group. This holds for male teacher-identified students ($t(88) = 5.44$, $p < 0.01$, $d = 0.68$) and female teacher-identified students ($t(61) = 4.85$, $p < 0.00$, $d = 0.61$). Further, female identified-students are perceived to have a higher rate of anxiety in the classrooms ('anxiety'; $t(61) = 3.20$, p =.00, $d = 0.49$) and a smaller rate of anti-social behaviour ('conduct disorder'; $t(88) = -3.9$, $p < 0.01$, $d = 0.49$) than the norm-referenced group. These differences reflect moderate effects.

The number of male teacher-identified students obtaining a deviancy score was significantly higher than expected on the scales 'aggression' (19.1%, $\chi 2 = 8.19$, $p = .00$), 'anxiety'; (24.7%, $\chi 2 = 21.42$, $p < .001$) and 'depression' (39.3%, $\chi 2 = 85.1$, $p < .001$). The same goes for deviancy scores of female teacher-identified students on the scales anxiety (21%, $\chi 2 = 8.29$, $p = .00$) and depression (27.4%, $\chi 2 = 20.9$, $p < 0.01$).

High vs. Low Achieving Teacher-Identified Students

About two-fifths of the teacher-identified students scored above the Dutch national average (A or B-score; >P50) on the subjects mathematics (39.1%) or comprehensive reading (42.4%). Although more males were high-achieving in mathematics and more females in comprehensive reading, Chi-square tests showed that these differences were not significant (mathematics, $\chi 2 = 3.14$, $p = .08$; comprehensive reading, $\chi 2 = .83$, $p = .36$).

Table 2.2 presents scale scores of students' self-perceived competence, teachers' perceived student' task-oriented behaviour, teachers perceived relationship with the students and teacher-perceived internalising and externalising (problem) behaviour in the classroom of high (A or B-score; >P50) and low achieving (C-, D- or E-score; ≤P50) teacher-identified students with additional support needs.

Students' Perceived Self-Competence regarding School. No significant scale differences were found between students' perceived self-competence regarding school attainment in the classroom of high- and low achieving teacher-identified students.

Table 2.2 Ranks of Low (<P50) and High Achieving (>P50) Teacher-identified Students

	Mathematics		Comprehensive reading	
	Low	High	Low	High
Self-competence				
School Attainment	40.22	43.39	46.96	37.01
Task-oriented behaviour				
Inhibit	73.49	79.92	77.20	74.37
Shift	70.09*	85.21	75.55	76.61
Emotional Control	68.04**	88.42	73.08	79.97
Initiate	83.34**	64.56	84.72*	64.15
Working memory	87.38**	58.25	78.63**	64.82
Plan/Organize	84.56**	62.65	82.61*	67.01
Organization of materials	74.70	78.03	74.97	72.42
Monitor	78.21	72.55	84.22	77.41
Student-teacher relationship				
Conflict	76.48	77.85	75.84	76.21
Dependency	70.79	75.25	78.66	67.12*
Closeness	77.85	84.12	82.53	72.39
Behaviour in the classroom				
ADHD	73.12	75.81	80.12	70.40
Oppositional disorder	76.12	82.10	76.14	75.81
Conduct disorder	72.09	79.18	79.51	71.23
Aggression	73.96	79.43	77.66	73.75
Anxiety	73.80	74.44	81.81	68.10
Depression	73.95	79.19	77.13	74.47

Note. * $p < .05$. ** $p < .01$.

Teacher-Perceived Students' Task-Orientated Behaviour. Teacher-identified students who are low-achieving in mathematics were perceived to have significantly fewer problems adjusting behaviour to changing demands of a situation ('shift'; $U = 2171$, $p = .04$), and modulating emotional responses ('emotional control'; $U = 1982$, $p = .00$) than high-achieving teacher-identified students.

Further, low-achieving students in both mathematics as comprehensive reading are perceived to have significantly more problems managing current and future-oriented task demands ('plan/organize'; mathematics $U = 2594$, $p = .00$; comprehensive reading $U = 2201$, $p = .03$) than high achieving teacher-identified students. Low-achieving teacher-identified student are

also perceived to have more problems initiating tasks ('initiate'; mathematics, $U = 2039$, $p = .01$; comprehensive reading, $U = 2026$, $p = .04$), holding information in mind with the objective of completing a task ('working memory'; mathematics, $U = 1667$, $p < .001$; comprehensive reading, $U = 2069$, $p = .01$).

Teacher-Perceived Relationship with the Students. No significant differences were found between teachers' perceptions of student-teacher relationship in terms of conflict, dependency and closeness of high and low achieving teacher-identified students with additional support needs.

Teacher-Perceived Behaviour in the Classroom. No significant differences were found between teachers' perceptions of students' internalising or externalising problem behaviour of high and low achieving teacher-identified students with additional support needs.

Conclusion and Discussion

The characteristics of 151 students with additional support needs in Dutch mainstream primary education, identified by their teachers as in need of additional support to attain set educational goals, were explored in this study.

The first research question addressed how teacher-identified students differ from students in the norm-referenced groups, in terms of students' perceived self-competence, teacher-perceived students' task-oriented behaviour, teacher perceptions of the relationship with the students, and teacher-perceived students' internalising and externalising (problem)behaviour. Although few group-differences were found, teacher-identified students had a significantly lower perceived self-concept in how well they were doing in school and are perceived to be significantly more indifferent, absent-minded or not motivated, than the norm-referenced group. The group of female identified-students were perceived to be more anxious in the classroom than girls in the norm-referenced group. On the other hand, it appeared that more individual male teacher-identified students were perceived as having problems ignoring stimuli, being dependent of the teacher and were feeling more anxious than individual male students in the norm-referenced group. Further, more individual female teacher-identified students were perceived to have problems coping with changes, monitoring their emotions, being close to the teacher and were feeling more anxious and depressed, than girls from the norm-referenced group. These findings support previous research of Meijer et al.(2006) who addressed students' withdrawal, emotional instability and anxiety as characteristics of students with special educational needs in need of emotional support.

In sum, few group-differences were found between teacher-identified students and the norm-referenced groups in contrast to the several significant differences, when regarded from a deviancy point of view. Thus, it seems that teacher-identified students with additional support needs differ in the likelihood of scoring defiantly, rather than being different at average, i.e. having elevated or decreased group-scores.

Surprisingly, about two-fifth of the teacher-identified students scored above the Dutch national average in key skills. This is in contrast to previous analyses (Anders et al., 2011, Van der Veen et al., 2010) since those addressed low attainment scores as an indicator of teacher-identified special educational needs. This finding leads to the second research question, focusing on differences between high- and low achievers within the group of teacher-identified students. Within-group analysis showed that teacher-identified students who are low achieving in mathematics and comprehensive reading were perceived to have more problems with working memory, planning their work and taking initiatives.

In conclusion, this study contributes to current debates on how to define special educational needs by presenting characteristics of teacher-identified students in need of more support to attain set educational goals. It appeared that a clinical diagnosis is not central to teachers' perceptions of additional support needs; more than three-quarter of the teacher-identified students remained undiagnosed. This also holds for low attainment scores; about 40% of the teacher-identified students scored above the Dutch national average on mathematics and comprehensive reading. Rather than presenting a homogeneous group, teacher-identified students with additional support needs are characterised by large variations and individual differences in performance. Thus, this study showed that the group of teacher-identified students is heterogeneous; including boys and girls, high- and low achievers on mathematics and comprehensive reading and many without a clinical diagnosis of special educational needs.

Although this study has contributed to research about the concept of additional support needs by providing teachers' views on students in their classrooms as in need of additional support, it also has some limitations. First, teachers' characteristics were not measured, although recent reviews (Brady & Woolfson, 2008, De Boer et al., 2011) show relationships between teacher characteristics and their accountability for adapting their education to learners' needs. These characteristics could also be of importance in the process of identifying students with special educational needs. Second, in comparison to other large, international whole-cohort studies (Van der Veen et al., 2010, Lebeer et al., 2010), a relatively small cohort (n = 151) of students was included in this study. Third, we used t-tests to be able to compare the identified group scores' with those from norm-referenced groups despite non-normal distribution of the

scores. As using parametric rather than non-parametric tests may increase type I error (Aron & Aron, 2003), the results from these tests should be interpreted with caution.

However, this research theme deserves further empirical study to address (possible) relationships between (a) teacher characteristics and teacher- identification of students' additional support needs and (b) specifying the sets of (special) educational support needs of teacher-identified students with additional support needs. These studies would further enhance our understanding of educational practice and support teachers in their complex task of meeting the variety of students' additional support needs in mainstream primary educatio